



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

JUL 12 2017

ACTION MEMORANDUM

SUBJECT: Request Ceiling Increase and Change in Scope of Response at the Burlington Industries Cheraw Site in Cheraw, Chesterfield County, South Carolina

FROM: Matthew J. Huyser, On-Scene Coordinator
Emergency Response, Removal and Prevention Branch

THRU: James W. Webster, Ph.D., Chief
Emergency Response, Removal and Prevention Branch

TO: Franklin E. Hill, Director
Superfund Division

I. PURPOSE

The purpose of this Action Memorandum is to request and document additional funding and a change in scope of the response at the Burlington Industries Cheraw Site (Site) located in Cheraw, Chesterfield County, South Carolina. The Site was referred to the U.S. Environmental Protection Agency Region 4 Emergency Response, Removal and Prevention Branch (ERRPB) by the South Carolina Department of Health and Environmental Control (DHEC) on October 4, 2016, based on elevated concentrations of Polychlorinated Biphenyls (PCB) in soil at residential properties and within surface water drainage units. ERRPB completed a Removal Site Evaluation (RSE) on December 14, 2016, and determined that the Site poses a threat to public health and the environment that meets the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) section 300.415(b) criteria for removal actions. Site activities commenced under the Action Memorandum that was signed on April 25, 2017. If approved, the proposed action description (Section V.A.1) in the April 25, 2017, Action Memorandum will be amended to include occupied residential properties with surface soil concentrations of PCBs that exceed the corresponding EPA Region 4 Removal Management Level (RML). The ceiling increase will bring the total project ceiling to \$1,993,200 of which an estimated \$1,596,000 will be funded through the Regional Removal Allowance.

II. SITE CONDITIONS AND BACKGROUND

Site ID: B49F
CERCLIS ID: SCN000404896
Removal Category: Time-Critical Removal Action



A. Site Description

1. Removal Site Evaluation

Information regarding the history of the Burlington Industries manufacturing facility in Cheraw, South Carolina, and the Site Investigation conducted by DHEC was documented in the April 25, 2017, Action Memorandum which is provided as Attachment A.

In Section II.A.1 on page 1 of the April 25, 2017, Action Memorandum, a 1974 construction permit (Permit No. 2852-C) received by Burlington Industries from DHEC was incorrectly attributed to the Burlington Industries James Fabrics Plant at 650 Chesterfield Highway in Cheraw, Chesterfield County, South Carolina. The 1974 permit was for a separate facility at a different address. Records of correspondence and memorandums provided by DHEC document a review of the wastewater treatment system at the Burlington Industries James Fabrics Plant by the South Carolina State Board of Health between March 2, 1970 and March 7, 1972. Data was provided by Burlington on March 27, 1970, which included wastewater characteristics of Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD), Settled Solids, Suspended Solids, Copper, Chromium, and Zinc. Samples from the plant's wastewater treatment system were collected by the South Carolina State Board of Health after December 17, 1971, and were analyzed for "routine lab test[s]"¹ (results of these samples have not yet been located).

2. Physical Location

Information regarding the physical location of the Site was documented in the April 25, 2017, Action Memorandum which is provided as Attachment A.

3. Site Characteristics

Information regarding the physical location of the Site was documented in the April 25, 2017, Action Memorandum which is provided as Attachment A.

4. Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

Part 302.4 of Title 40 in the Code of Federal Regulations lists PCBs as a hazardous substance under section 102(a) of CERCLA, a toxic pollutant under section 307(a) of the CWA, and as a hazardous air pollutant under section 112 of the CAA. PCBs are also listed as a toxic chemical through section 313 of EPCRA and determined to present an unreasonable risk of injury to health and or the environment under section 2605(e) of the Toxic Substances Control Act (TSCA).

The EPA Region 4 Removal Management Level (RML) for PCBs Aroclor 1248 is 23,000 µg/kg for residences and 95,000 µg/kg on industrial properties. The EPA RML for PCB Aroclor 1254 is different for a calculated Hazard Quotient (HQ) equal to 1 (1,200 µg/kg for residential soil and 15,000 µg/kg for industrial soil) versus a HW equal to 3 (3,500 µg/kg for residential soil and 44,000 µg/kg for industrial soil).

¹ Documented in a December 17, 1971, letter from the Chief of the South Carolina Board of Health Monitoring Branch to a Biologist at the Lancaster PCA Laboratory. No additional specifications were provided in the letter on the analysis procedures, target analytes, contaminants of concern, or other parameters.

Photolysis and biodegradation are slow degradation processes for PCBs in the soil and are further limited by increased chlorination of the molecule; as a result, PCBs are inherently persistent in the environment. While both PCB Aroclors found at the Site are considered stable and persistent, Aroclor 1254, which is near the upper range of chlorine content for the family of common PCBs, will likely remain stable for an extended period of time.

5. NPL Status

The Site is not on the National Priorities List (NPL) but is currently being evaluated and scored for proposed listing to the NPL.

6. Maps, Pictures and Other Graphic Representations

Maps, pictures and other graphical representations of data are provided as attachments to the April 25, 2017, Action Memorandum.

B. Other Actions to Date

1. Previous Actions

Information regarding the previous actions at the Site was documented in the April 25, 2017, Action Memorandum which is provided as Attachment A.

2. Current Actions

The City of Cheraw has closed Huckleberry Park to the public and removed some playground equipment. The city has also ceased all storm water-related work in Wilson Branch and the upstream unnamed tributary. Impacted residents on Pecan Drive and in Sherwood Forest have been briefed and provided information on reducing exposure to contaminated soils and sediments. Highland Industries, Inc. has closed the storm water discharge pipe from its northwest retention pond.

Discussions are on-going for the implementation of an enforcement-lead removal for the industrial portion of the Site. Additional fund-lead response actions may be necessary depending on the outcome of the negotiation.

Data and digital maps were provided to the EPA's Scientific Support Section (SSS) for risk evaluation. SSS subsequently categorized portions of the Site based on PCB concentration and land-use setting. The Tier I category consisted of occupied residential properties displaying PCB Aroclor concentrations greater than 10-times the respective EPA Region 4 RML² for residential soil; Tier II consisted of occupied residential properties with PCB Aroclor concentrations greater than the RML. For purposes of risk assessment, Huckleberry Park was evaluated as a residential property. The residential soil RMLs for PCB Aroclors 1248 and 1254 are 23,000 µg/kg and 3,500 µg/kg, respectively. Under the Tier I criteria, 10-times the RML for PCB Aroclors 1248 and 1254 will be 230,000 µg/kg and 35,000 µg/kg, respectively. At present, there are six residential properties which meet Tier I criteria and eight occupied residential properties which meet Tier II criteria. Huckleberry Park was found to meet Tier II criteria. The proposed action description in section V.A.1 of the

² Removal Management Levels (RML) are risk-based screening values developed by the U.S. EPA to determine whether sample concentrations are sufficiently elevated that they may warrant a removal action. Exceedance of an RML by itself does not require a removal action, nor does it imply that adverse health effects will occur.

April 25, 2017 Action Memorandum identified actions to take place at the six Tier I residential properties as well as Huckleberry Park. The purpose of this Action Memorandum is to request and document additional funding and a change in scope which will include the six Tier I residential properties, Huckleberry Park, and the eight Tier II occupied residential properties.

On May 10, 2017, On-Scene Coordinator (OSC) Matthew Huyser met with the Town Administrator and the Public Works Director for the Town of Cheraw to discuss the location of equipment staging and a field office as well as proposed work for Huckleberry Park. On the same day, OSC Huyser met with property owners and tenants at six residential parcels which had been identified for cleanup to discuss the logistics and conditions at each property. On June 5, 2017, the EPA's Emergency and Rapid Response Services (ERRS) contractor mobilized crews and equipment to Cheraw, South Carolina, to begin excavation activities. Initial work began at three adjoining properties that presented a continuous area targeted for excavation with a single unimpeded access point.

By June 29, 2017, excavation work was completed at five properties. Excavated soil includes 1,534 tons of waste soil with total PCB concentration below 50,000 µg/kg approved for disposal at Lee County Landfill in Bishopville, South Carolina. Excavated soil also includes 716 tons of TSCA PCB remediation waste with total PCB concentration exceeding 50,000 µg/kg which has been approved for disposal at the Wayne Disposal, Inc. Site #2 Landfill in Belleville, Michigan.

C. State and Local Authorities' Roles

1. State and Local Actions to Date

Information regarding State and local actions at the Site was documented in the April 25, 2017, Action Memorandum which is provided as Attachment A.

2. Potential for Continued State/Local Response

The State of South Carolina does not presently have resources or funds available to address the most pressing response needs to the Site.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Sampling has shown that the Site is contaminated with PCB Aroclors 1248 and 1254 above their respective RMLs for surface soil on residential properties. PCB contaminants occur within residential yards, the Highland Industries lot, a public park and a surface water drainage corridor of 3.2 miles from the former Burlington Industries facility to the Pee Dee River.

Section 300.415 of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) lists factors to be considered in determining the appropriateness of a removal action. Paragraphs (b)(2)(i), (iv), (v) and (vii) directly apply to the Site:

300.415(b)(2)(i): Actual or potential exposure to nearby human populations, animals or the food chain from hazardous substances or pollutants or contaminants.

According to samples collected by DHEC, at least six residential parcels along Pecan Drive contain PCB Aroclors 1248 or 1254 in excess of 100,000 µg/kg while three more parcels contain PCB concentrations of at least 10,000 µg/kg. One sample in a residential yard on Pecan Drive yielded PCB Aroclor 1248 and 1254 concentrations of 2,100,000 µg/kg and 1,600,000 µg/kg, respectively. PCBs were found at concentrations above 1,000 µg/kg within yards of two occupied residences of the Sherwood Forest community.

Within Huckleberry Park, PCB Aroclor 1248 was found at concentrations ranging from 5,200 µg/kg to 16,000 µg/kg under swing sets within the park. PCB Aroclor 1254 was found at concentrations ranging from 4,700 µg/kg to 13,000 µg/kg within the same samples under the swing sets. During an October sampling event, DHEC documented evidence of children in the park such as bare footprints and sand/mud that had been placed onto the park slide.

300.415(b)(2)(iv): High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.

Sediments within the 1,000-foot ditch at the west boundary of the former Burlington Industries facility show a high degree of uniformity among all samples collected with concentrations of PCB Aroclors 1248 and 1254 in excess of 10,000 µg/kg. Concentrations for each PCB Aroclor exceeded 100,000 µg/kg in at least half of the samples that were collected from the ditch. At least seven downstream sediment samples in intermittent and perennial tributaries yielded PCB Aroclor concentrations in excess of 1,000 µg/kg. PCBs within ditch and creek sediments along the surface water corridor will migrate to the Pee Dee River.

300.415(b)(2)(v): Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

The surface water drainage corridor at the Site is prone to flooding, particularly in residential yards and the public park along Wilson Branch. Contaminated sediments from the ditch and/or creek may mobilize and deposit upon residential properties during flooding events.

300.415(b)(2)(vii): The availability of other appropriate federal or state response mechanisms to respond to the release.

The State of South Carolina does not currently have sufficient funding to complete a response or removal action at the Site.

IV. ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances and/or pollutants from this Site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, welfare or the environment.

V. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

The requested funding outlined in this Action Memorandum will begin to mitigate the release or threat of release of Polychlorinated Biphenyls associated with the former Burlington Industries, Inc. operation in Cheraw, Chesterfield County, South Carolina. The scope of the removal action under this Action Memorandum addresses occupied residential land use where potential human health risks stem from PCB concentrations greater than the respective EPA Region 4 Removal Management Levels (RML) for residential soil. A total of fourteen residential parcels (Attachment B) and one public park have been identified which meet these criteria. The surface water drainage corridor from the facility is not a component of this proposed action and may be addressed in a future response action. The scope of work, if approved, will include the following actions:

- Excavate surface soils contaminated with PCBs from occupied residential properties which meet Tier I and Tier II criteria;
- Remove play units and soil from Huckleberry Park which meet Tier II criteria;
- Provide temporary staging of excavated PCB-contaminated soil/sediment between removal and disposal activities;
- Load and transport PCB-contaminated soil/sediment to an offsite location for treatment and/or disposal;
- Replace excavated soil with clean backfill and vegetation; and
- Restore impacted properties to the extent practicable.

2. Contribution to Remedial Performance

The scope of this proposed action is to address the residential parcels which have the highest concentrations of contaminants as well as the public play areas for children. At this time, six Tier I parcels and eight Tier II parcels will be addressed as well as the play areas within Huckleberry Park which is considered a Tier II area. The response actions will, to the extent practicable, contribute to the efficient performance of any long-term remedial action at the Site.

3. Applicable or Relevant and Appropriate Requirements (ARAR)

Information regarding ARARs was documented in the April 25, 2017, Action Memorandum which is provided as Attachment A.

One correction to the ARARs section in the original action memorandum is necessary: The TSCA *Risk-based disposal approval* notification and approval requirements were incorrectly cited as "40 CFR § 761.61(b)." The correct citation is: 40 CFR § 761.61(c).

4. Projected Schedule

Removal activities at the Site will require an uninterrupted period of approximately two more months to accomplish the proposed activities listed in section V.A.1; however, a period of performance in the amount of six months will be necessary to accommodate sufficient pre-mobilization planning, delays and closure procedures which will follow removal activities.

B. Estimated Costs

Costs for the removal action will remain within the current approved total project ceiling. Off-site disposal cost for PCB-contaminated soil is the primary driver for elevated overall project ceiling.

Extramural Costs:	Current Ceiling:	Proposed Increase:	Proposed Ceiling:
<u>Regional Allowance Costs:</u>			
ERRS	\$ 894,000	\$ 702,000	\$ 1,596,000
<u>Other Extramural Costs Not Funded from the Regional Allowance:</u>			
START	\$ 51,000	\$ 12,000	\$ 63,000
USCG GST	\$ 0	\$ 0	\$ 0
EPA ERT	\$ 0	\$ 0	\$ 0
CLP	\$ 2,000	\$ 0	\$ 2,000
<u>Subtotal Extramural Costs:</u>			
Extramural Costs Contingency (20%)	\$ 189,400	\$ 142,800	\$ 332,200
TOTAL REMOVAL ACTION PROJECT CEILING:	\$ 1,136,400	\$ 856,800	\$ 1,993,200

VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Actual or threatened releases of hazardous substances from this Site, if not addressed by the response action selected in this Action Memorandum, present an imminent and substantial endangerment to public health, welfare and the environment.

VII. OUTSTANDING POLICY ISSUES

None.

VIII. ENFORCEMENT

Enforcement activities for the industrial portion of the Site have been initiated and are ongoing. The scope of this requested response is limited to the higher tiered residential property. Please see the attached Enforcement Addendum (Enforcement Sensitive) for further information regarding enforcement activities.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$2,895,322 using the following formula: (Total Extramural Costs) + (45.26% x (Total Extramural Costs + Total Intramural Costs)) or (\$1,993,200 + (45.26% x (\$1,993,200)))³.

IX. RECOMMENDATION

(b)(5) Inter-agency communications



APPROVED: _____

Franklin E. Hill, Director
Superfund Division

DATE: _____

DISAPPROVED: _____

Franklin E. Hill, Director
Superfund Division

DATE: _____

Attachments

³ Direct costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of the site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States' right to cost recovery.